

1. (currently amended) A process control system comprising:

a server that has access to a database system and executes program code for the process control system;

a table of process records in the database system, each process record indicating a current status of a process being controlled by the system;

a table of administrative query records in the database system, each administrative query record specifying an administrative query that is associated with a query on the table of process records and with ~~an~~ one or more administrative ~~activity~~ activities;

a log table in the database system that has records logging executions of the query and result sets of process records returned thereby, the log table records permitting determination whether a record belonging to a current result set returned by a current execution of a given administrative query is in one of a plurality of states;

and

a portion of the program code which, when executed, selects one of the administrative queries for execution, executes the query associated therewith, determines which state a record belonging to the current result set is in, and, as determined by the state, performs ~~and performs the one of the~~ associated administrative activity ~~activities~~ with regard to the ~~result set~~ record ~~returned by the associated query.~~

2. (canceled)

3. (currently amended) The process control system set forth in claim 2-1 wherein:

more than one of the administrative activities is associated with one of the states;
the portion of the code can further, when executed, determine from the log table whether a record is in one of a plurality of substates of the one state; and
which of the more than one of the administrative activities is performed with regard to a record belonging to the result state depends on which of a plurality of substates of the state the record is in.

4. (currently amended) The process control system set forth in claim 2-1 further comprising:

a program sequence table in the database system that contains a set of program sequence records that are associated with the administrative ~~procedure~~ query, each of the associated records specifying at least an administrative activity and a way of determining a next record in the set;

and wherein

the records logging the executions of the query and process records returned thereby further include a next sequence pointer for a given execution of the administrative query and a given process record, the next sequence pointer specifying a next record of the set of program sequence records,

the portion of code, when executed, responding when a process record is again returned by a future execution of the administrative query by performing the administrative activity specified in the program sequence record specified by the next record pointer and setting the next sequence pointer as specified in the program sequence record.

5. (original) The process control system set forth in claim 4 wherein:

the program sequence record specifies that the next sequence pointer's value remains unchanged.

6. (original) The process control system set forth in claim 4 wherein:

a program sequence record further specifies a condition which must be satisfied before the administrative activity specified therein can be performed; and

the portion of code, when executed, performs the specified administrative activity only if the specified condition is satisfied.

7. (original) The process control system set forth in claim 6 wherein:

the specific condition is temporal.

8. (original) The process control system set forth in claim 1 wherein:

the administrative activity includes one or more actions; and
when the administrative activity is performed, the actions included therein are executed.

9. (original) The process control system set forth in claim 8 wherein:

there is a plurality of different types of actions that may be included in an administrative activity.

10. (original) The process control system set forth in claim 9 wherein:

the types of actions include actions which modify values in process records belonging to the result set when the activity in which the action is included is executed.

11. (original) The process control system set forth in claim 9 wherein:

the types of actions include actions which post a record for a process in a further table in the database system when the activity in which the action is included is executed.

12. (original) The process control system set forth in claim 9 wherein:

the types of actions include actions which generate a report listing the result set when the activity in which the action is included is executed.

13. (original) The process control system set forth in claim 8

wherein there is a plurality of administrative actions and
the process control system further comprises:

an action record table in the database system, each action record in the table representing an action associated with one of the administrative activities; and

when the associated administrative activity is performed, the portion of the program code executes the action records associated with the associated administrative activity.

14. (original) The process control system set forth in claim 13 wherein:

there is a plurality of types of actions; and

there is a plurality of the action tables, each action table of the plurality thereof containing action records for actions of one type of the plurality thereof.

15. (currently amended) The process control system set forth in claim 1 wherein:

the administrative query record further specifies future scheduling information that is associated with the administrative query;

the process control system further comprises

a schedule accessible to the server that relates administrative queries to times for execution; and

when executed, the portion of the program code accesses the schedule to determine a time for a next administrative query to be executed, executes the next administrative query at the determined time on the table of process records to obtain a result set of the process records that are of interest to the process control system, and employs the executed administrative query's future scheduling information to update the executed administrative query's time for execution in the schedule.

16. (currently amended) The process control system set forth in claim 4—15 further comprising:

a future scheduling information table in the database whose records specify the future scheduling information,

the administrative query record for an administrative query specifying the future scheduling information by specifying a record in the schedule table.

17. (original) The process control system set forth in claim 1 wherein:

the administrative query record further specifies scope information that defines a subset of the process records; and

when executed, the portion of the program code executes the query associated with the administrative query on the subset of the process records that is defined by the scope information associated with the administrative query.

18. (original) The process control system set forth in claim 17 further comprising:

an administrative query scope table in the database system whose records specify subsets of the process records;

the administrative query record for an administrative query specifying the scope information by specifying a record in the administrative query scope table.

19. (original) The process control system set forth in claim 1 further comprising:

an administrative query trend table wherein each record is associated with an administrative query and specifies an administrative action that is to be performed in response to a trend concerning the associated administrative query; and

when executed, the portion of code determines from the administrative query trend record associated with the administrative query being executed whether a trend exists and when so, performs the specified administrative action.

20. (original) The process control system set forth in claim 1 further comprising:

a query table in the database system whose records specify queries on the process record table; and

an administrative activity type table in the database system whose records specify administrative activity types,

the administrative query record for an administrative query specifying the query on the table of process records by specifying a record in the query table and specifying the administrative action by specifying a record in the administrative activity type table.